In the Claims

1. A method of simulating an indoor behavior of a pesticidal compound, said simulation method comprising:

a step of dividing an indoor environment into predetermined media and forming a differential equation concerning a fugacity of said compound in each of said media;

a step of determining the fugacity of said compound in each of said media from said differential equation;

a step of determining the indoor behavior of said compound from the fugacity of said compound in each of said media; and

a step of changing, in response to a fluctuation in mass balance of the compound indoors, a minute time unit used when solving said differential equation.

2. A simulation method according to claim 1, further comprising a step of evaluating safety of said compound with respect to a human body according to the indoor behavior of said compound.

3. A simulation method according to claim 1, wherein said compound is introduced into an indoor space as a solution containing said compound is residually sprayed; and

wherein said media are a spraying site, suspended particles which are divided into at least one kind according to size, indoor air, a floor, a wall, and a ceiling.

4. A simulation method according to claim 3,

wherein said differential equation at said spraying site is a differential equation stating a relationship among temporal change of fugacity of said compound at said spraying site, temporal change in volume of said spraying site, amount of attachment of said suspended particles to said spraying site, amount of transference of said compound between said spraying site and another medium, and change in amount of degradation of said compound at said spraying site;

wherein said differential equation in said suspended particles is a differential equation stating a relationship among temporal change of fugacity of said compound in said suspended particles, temporal change in volume of said suspended particles, amount of transference of said compound between said suspended particles and another medium, and change in amount of degradation of said compound in said suspended particles;

wherein said differential equation in said indoor air is a differential equation stating a relationship among temporal change of fugacity of said compound in said indoor air, amount of discharge of said compound outdoors, amount of transference of said compound between said indoor air and another medium, and change in amount of degradation of said compound in said indoor air;

wherein said differential equation at said floor is a differential equation stating a relationship among temporal change of fugacity of said compound at said floor,

temporal change in volume of said floor, amount of attachment of said suspended particles to said floor, amount of transference of said compound between said floor and another medium, and change in amount of degradation of said compound at said floor;

wherein said differential equation at said wall is a differential equation stating a relationship among temporal change of fugacity of said compound at said wall, temporal change in volume of said wall, amount of attachment of said suspended particles to said wall, amount of transference of the compound between said wall and another medium, and change in amount of degradation of said compound at said wall; and

wherein said differential equation at said ceiling is a differential equation stating a relationship among temporal change of fugacity of said compound at said ceiling, temporal change in volume of said ceiling, amount of attachment of said suspended particles to said ceiling, amount of transference of said compound between said ceiling and another medium, and change in amount of degradation of said compound at said ceiling.

5. A simulation method according to claim 1, wherein said compound is introduced into an indoor space as a solution containing said compound is spatially sprayed; and

wherein said media are suspended particles which are

divided into at least one kind according to size, indoor air, a floor, a wall, and a ceiling.

6. A simulation method according to claim 5, wherein said differential equation in said suspended particles is a differential equation stating a relationship among temporal change of fugacity of said compound in said suspended particles, temporal change in volume of said suspended particles, amount of transference of said compound between said suspended particles and another medium, and change in amount of degradation of said compound in said suspended particles;

wherein said differential equation in said indoor air is a differential equation stating a relationship among temporal change of fugacity of said compound in said indoor air, amount of discharge of said compound outdoors, amount of transference of said compound between said indoor air and another medium, and change in amount of degradation of said compound in said indoor air;

wherein said differential equation at said floor is a differential equation stating a relationship among temporal change of fugacity of said compound at said floor, temporal change in volume of said floor, amount of attachment of said suspended particles to said floor, amount of transference of said compound between said floor and another medium, and change in amount of degradation of said compound at said floor;

wherein said differential equation at said wall is a differential equation stating a relationship among temporal change of fugacity of said compound at said wall, temporal change in volume of said wall, amount of attachment of said suspended particles to said wall, amount of transference of said compound between said wall and another medium, and change in amount of degradation of said compound at said wall; and

wherein said differential equation at said ceiling is a differential equation stating a relationship among temporal change of fugacity of said compound at said ceiling, temporal change in volume of said ceiling, amount of attachment of said suspended particles to said ceiling, amount of transference of said compound between said ceiling and another medium, and change in amount of degradation of said compound at said ceiling.

7. A simulation method according to claim 1, wherein said compound is introduced into an indoor space as a solution containing said compound is heated to vaporize; and

wherein said media are condensed particles which are divided into at least one kind according to generation and extinction, high-concentration air, medium-concentration air, low-concentration air, a floor, a wall, and a ceiling which is divided into at least one kind according to compound concentration.

8. A simulation method according to claim 7, wherein said differential equation in said condensed particles is a differential equation stating a relationship among temporal change of fugacity of said compound in said condensed particles, temporal change in volume of said condensed particles, amount of transference of said compound between said condensed particles and another medium, and change in amount of degradation of said compound in said condensed particles;

wherein said differential equation in said high-concentration air is a differential equation stating a relationship among temporal change of fugacity of said compound in said high-concentration air, amount of discharge of said compound, amount of transference of said compound between said high-concentration air and another medium, and change in amount of degradation of said compound in said high-concentration air;

wherein said differential equation in said medium-concentration air is a differential equation stating a relationship among temporal change of fugacity of said compound in said medium-concentration air, amount of transference of said compound between said medium-concentration air and another medium, and change in amount of degradation of said compound in said medium-concentration air;

wherein said differential equation in said low-

concentration air is a differential equation stating a relationship among temporal change of fugacity of said compound in said low-concentration air, amount of discharge of said compound outdoors, amount of transference of said compound between said low-concentration air and another medium, and change in amount of degradation of said compound in said low-concentration air;

wherein said differential equation at said floor is a differential equation stating a relationship among temporal change of fugacity of said compound at said floor, temporal change in volume of said floor, amount of transference of said compound between said floor and another medium, and change in amount of degradation of said compound at said floor;

wherein said differential equation at said wall is a differential equation stating a relationship among temporal change of fugacity of said compound at said wall, temporal change in volume of said wall, amount of transference of said compound between said wall and another medium, and change in amount of degradation of said compound at said wall; and

wherein said differential equation at said ceiling is a differential equation stating a relationship among temporal change of fugacity of said compound at said ceiling, temporal change in volume of said ceiling, amount of transference of said compound between said ceiling and

another medium, and change in amount of degradation of said compound at said ceiling.

Sub 1 > 9. A simulation method according to claim 1, wherein said compound is introduced into an indoor space as a solution containing said compound is sprayed over the whole floor; and

wherein said media are suspended particles which are divided into at least one kind according to size, indoor air, a floor, a wall, and a ceiling.

10. A simulation method according to claim 9, wherein said differential equation in said suspended particles is a differential equation stating a relationship among temporal change of fugacity of said compound in said suspended particles, temporal change in volume of said suspended particles, amount of transference of said compound between said suspended particles and another medium, and change in amount of degradation of said compound in said suspended particles;

wherein said differential equation in said indoor air is a differential equation stating a relationship among temporal change of fugacity of said compound in said indoor air, amount of discharge of said compound outdoors, amount of transference of said compound between said indoor air and another medium, and change in amount of degradation of said compound in said indoor air;

wherein said differential equation at said floor is

a differential equation stating a relationship among temporal change of fugacity of said compound at said floor, temporal change in volume of said floor, amount of attachment of said suspended particles to said floor, amount of transference of said compound between said floor and another medium, and change in amount of degradation of said compound at said floor;

wherein said differential equation at said wall is a differential equation stating a relationship among temporal change of fugacity of said compound at said wall, temporal change in volume of said wall, amount of attachment of said suspended particles to said wall, amount of transference of said compound between said wall and another medium, and change in amount of degradation of said compound at said wall; and

wherein said differential equation at said ceiling is a differential equation stating a relationship among temporal change of fugacity of said compound at said ceiling, temporal change in volume of said ceiling, amount of attachment of said suspended particles to said ceiling, amount of transference of said compound between said ceiling and another medium, and change in amount of degradation of said compound at said ceiling.

11. A simulation method according to claims 3, wherein said floor is constituted by a rug having ears of fiber; and

wherein a space between said ears is added to said media.

12. A simulation method according to claim 11, wherein said differential equation in the space between said ears is a differential equation stating a relationship among temporal change of fugacity of said compound in the space between said ears, temporal change in volume of the solution containing said compound in the space between said ears, amount of attachment of said compound into the space portion between said ears by falling, amount of transference of said compound between the space portion between said ears and another medium, and change in amount of degradation of said compound in the space portion between said ears.

13. A simulation method according to claims 5, wherein said floor is constituted by a rug having ears of fiber; and

wherein a space between said ears is added to said media.

14. A simulation method according to claim 13, wherein said differential equation in the space between said ears is a differential equation stating a relationship among temporal change of fugacity of said compound in the space between said ears, temporal change in volume of the solution containing said compound in the space between said ears, amount of attachment of said compound into the space portion between said ears by falling, amount of transference of said

compound between the space portion between said ears and another medium, and change in amount of degradation of said compound in the space portion between said ears.

15. A simulation method according to claims 7, wherein said floor is constituted by a rug having ears of fiber; and

wherein a space between said ears is added to said media.

16. A simulation method according to claim 15, wherein said differential equation in the space between said ears is a differential equation stating a relationship among temporal change of fugacity of said compound in the space between said ears, temporal change in volume of the solution containing said compound in the space between said ears, amount of attachment of said compound into the space portion between said ears by falling, amount of transference of said compound between the space portion between said ears and another medium, and change in amount of degradation of said compound in the space portion between said ears.

17. A simulation method according to claim 9, wherein said floor is constituted by a rug having ears of fiber; and

wherein a space between said ears is added to said media.

18. A simulation method according to claim 17, wherein said differential equation in the space between said

ears is a differential equation stating a relationship among temporal change of fugacity of said compound in the space between said ears, temporal change in volume of the solution containing said compound in the space between said ears, amount of attachment of said compound into the space portion between said ears by falling, amount of transference of said compound between the space portion between said ears and another medium, and change in amount of degradation of said compound in the space portion between said ears.

19. A computer program product to be used together with an information processing apparatus comprising input means for receiving a data input from outside, display means, and readout means for reading out information from a computer-usable storage medium;

said computer program product comprising a computer-usable storage medium which has a program area for storing a program and has a computer-readable program materialized in said storage medium for causing, according to data input from said input means, said display means to display a result of simulation of an indoor behavior of a pesticidal compound;

said computer program product comprising:

in said program area,

a program for dividing an indoor environment into predetermined media and forming a differential equation concerning a fugacity of said compound,

a program for determining the fugacity of said compound in each of said media from said differential equation,

a program for determining the indoor behavior of said compound from the fugacity of said compound in each of said media, and

a program for changing, in response to a fluctuation in mass balance of said compound indoors, a minute time unit used when solving said differential equation.

20. A computer program product according to claim 19, further comprising, in said program area,

a program for evaluating safety of said compound with respect to a human body according to the indoor behavior of said compound.

21. A computer program product according to claim 19, wherein said compound is introduced into an indoor space as a solution containing said compound is residually sprayed; and

wherein said media are a spraying site, suspended particles which are divided into at least one kind according to size, indoor air, a floor, a wall, and a ceiling.

22. A computer program product according to claim 21, wherein said differential equation at said spraying site is a differential equation stating a relationship among temporal change of fugacity of said compound at said spraying site, temporal change in volume of said spraying site, amount

of attachment of said suspended particles to said spraying site, amount of transference of said compound between said spraying site and another medium, and change in amount of degradation of said compound at said spraying site;

wherein said differential equation in said suspended particles is a differential equation stating a relationship among temporal change of fugacity of said compound in said suspended particles, temporal change in volume of said suspended particles, amount of transference of said compound between said suspended particles and another medium, and change in amount of degradation of said compound in said suspended particles;

wherein said differential equation in said indoor air is a differential equation stating a relationship among temporal change of fugacity of said compound in said indoor air, amount of discharge of said compound outdoors, amount of transference of said compound between said indoor air and another medium, and change in amount of degradation of said compound in said indoor air;

wherein said differential equation at said floor is a differential equation stating a relationship among temporal change of fugacity of said compound at said floor, temporal change in volume of said floor, amount of attachment of said suspended particles to said floor, amount of transference of said compound between said floor and another medium, and change in amount of degradation of said compound

at said floor;

wherein said differential equation at said wall is a differential equation stating a relationship among temporal change of fugacity of said compound at said wall, temporal change in volume of said wall, amount of attachment of said suspended particles to said wall, amount of transference of the compound between said wall and another medium, and change in amount of degradation of said compound at said wall; and

wherein said differential equation at said ceiling is a differential equation stating a relationship among temporal change of fugacity of said compound at said ceiling, temporal change in volume of said ceiling, amount of attachment of said suspended particles to said ceiling, amount of transference of said compound between said ceiling and another medium, and change in amount of degradation of said compound at said ceiling.

23. A computer program product according to claim 19, wherein said compound is introduced into an indoor space as a solution containing said compound is spatially sprayed; and

wherein said media are suspended particles which are divided into at least one kind according to size, indoor air, a floor, a wall, and a ceiling.

24. A computer program product according to claim 23 wherein said differential equation in said suspended

particles is a differential equation stating a relationship among temporal change of fugacity of said compound in said suspended particles, temporal change in volume of said suspended particles, amount of transference of said compound between said suspended particles and another medium, and change in amount of degradation of said compound in said suspended particles;

wherein said differential equation in said indoor air is a differential equation stating a relationship among temporal change of fugacity of said compound in said indoor air, amount of discharge of said compound outdoors, amount of transference of said compound between said indoor air and another medium, and change in amount of degradation of said compound in said indoor air;

wherein said differential equation at said floor is a differential equation stating a relationship among temporal change of fugacity of said compound at said floor, temporal change in volume of said floor, amount of attachment of said suspended particles to said floor, amount of transference of said compound between said floor and another medium, and change in amount of degradation of said compound at said floor;

wherein said differential equation at said wall is a differential equation stating a relationship among temporal change of fugacity of said compound at said wall, temporal change in volume of said wall, amount of attachment of said

suspended particles to said wall, amount of transference of said compound between said wall and another medium, and change in amount of degradation of said compound at said wall; and

wherein said differential equation at said ceiling is a differential equation stating a relationship among temporal change of fugacity of said compound at said ceiling, temporal change in volume of said ceiling, amount of attachment of said suspended particles to said ceiling, amount of transference of said compound between said ceiling and another medium, and change in amount of degradation of said compound at said ceiling.

25. A computer program product according to claim 19, wherein said compound is introduced into an indoor space as a solution containing said compound is heated to vaporize; and

wherein said media are condensed particles which are divided into at least one kind according to generation and extinction, high-concentration air, medium-concentration air, low-concentration air, a floor, a wall, and a ceiling which is divided into at least one kind according to compound concentration.

26. A computer program product according to claim 25, wherein said differential equation in said condensed particles is a differential equation stating a relationship among temporal change of fugacity of said compound in said

condensed particles, temporal change in volume of said condensed particles, amount of transference of said compound between said condensed particles and another medium, and change in amount of degradation of said compound in said condensed particles;

wherein said differential equation in said high-concentration air is a differential equation stating a relationship among temporal change of fugacity of said compound in said high-concentration air, amount of discharge of said compound, amount of transference of said compound between said high-concentration air and another medium, and change in amount of degradation of said compound in said high-concentration air;

wherein said differential equation in said medium-concentration air is a differential equation stating a relationship among temporal change of fugacity of said compound in said medium-concentration air, amount of transference of said compound between said medium-concentration air and another medium, and change in amount of degradation of said compound in said medium-concentration air;

wherein said differential equation in said low-concentration air is a differential equation stating a relationship among temporal change of fugacity of said compound in said low-concentration air, amount of discharge of said compound outdoors, amount of transference of said

compound between said low-concentration air and another medium, and change in amount of degradation of said compound in said low-concentration air;

wherein said differential equation at said floor is a differential equation stating a relationship among temporal change of fugacity of said compound at said floor, temporal change in volume of said floor, amount of transference of said compound between said floor and another medium, and change in amount of degradation of said compound at said floor;

wherein said differential equation at said wall is a differential equation stating a relationship among temporal change of fugacity of said compound at said wall, temporal change in volume of said wall, amount of transference of said compound between said wall and another medium, and change in amount of degradation of said compound at said wall; and

wherein said differential equation at said ceiling is a differential equation stating a relationship among temporal change of fugacity of said compound at said ceiling, temporal change in volume of said ceiling, amount of transference of said compound between said ceiling and another medium, and change in amount of degradation of said compound at said ceiling.

27. A computer program product according to claim 19, wherein said compound is introduced into an indoor space

as a solution containing said compound is sprayed over the whole floor; and

wherein said media are suspended particles which are divided into at least one kind according to size, indoor air, a floor, a wall, and a ceiling.

28. A computer program product according to claim 27, wherein said differential equation in said suspended particles is a differential equation stating a relationship among temporal change of fugacity of said compound in said suspended particles, temporal change in volume of said suspended particles, amount of transference of said compound between said suspended particles and another medium, and change in amount of degradation of said compound in said suspended particles;

wherein said differential equation in said indoor air is a differential equation stating a relationship among temporal change of fugacity of said compound in said indoor air, amount of discharge of said compound outdoors, amount of transference of said compound between said indoor air and another medium, and change in amount of degradation of said compound in said indoor air;

wherein said differential equation at said floor is a differential equation stating a relationship among temporal change of fugacity of said compound at said floor, temporal change in volume of said floor, amount of attachment of said suspended particles to said floor, amount of

transference of said compound between said floor and another medium, and change in amount of degradation of said compound at said floor;

wherein said differential equation at said wall is a differential equation stating a relationship among temporal change of fugacity of said compound at said wall, temporal change in volume of said wall, amount of attachment of said suspended particles to said wall, amount of transference of said compound between said wall and another medium, and change in amount of degradation of said compound at said wall; and

wherein said differential equation at said ceiling is a differential equation stating a relationship among temporal change of fugacity of said compound at said ceiling, temporal change in volume of said ceiling, amount of attachment of said suspended particles to said ceiling, amount of transference of said compound between said ceiling and another medium, and change in amount of degradation of said compound at said ceiling.

29. A computer program product according claim 21, wherein said floor is constituted by a rug having ears of fiber; and

wherein a space between said ears is added to said media.

30. A computer program product according to claim 29, wherein said differential equation in the space between

said ears is a differential equation stating a relationship among temporal change of fugacity of said compound in the space between said ears, temporal change in volume of the solution containing said compound in the space between said ears, amount of attachment of said compound into the space portion between said ears by falling, amount of transference of said compound between the space portion between said ears and another medium, and change in amount of degradation of said compound in the space portion between said ears.

31. A computer program product according claim 23, wherein said floor is constituted by a rug having ears of fiber; and

wherein a space between said ears is added to said media.

32. A computer program product according to claim 31, wherein said differential equation in the space between said ears is a differential equation stating a relationship among temporal change of fugacity of said compound in the space between said ears, temporal change in volume of the solution containing said compound in the space between said ears, amount of attachment of said compound into the space portion between said ears by falling, amount of transference of said compound between the space portion between said ears and another medium, and change in amount of degradation of said compound in the space portion between said ears.

33. A computer program product according claim 25,

wherein said floor is constituted by a rug having ears of fiber; and

wherein a space between said ears is added to said media.

34. A computer program product according to claim 33, wherein said differential equation in the space between said ears is a differential equation stating a relationship among temporal change of fugacity of said compound in the space between said ears, temporal change in volume of the solution containing said compound in the space between said ears, amount of attachment of said compound into the space portion between said ears by falling, amount of transference of said compound between the space portion between said ears and another medium, and change in amount of degradation of said compound in the space portion between said ears.

35. A computer program product according claim 27, wherein said floor is constituted by a rug having ears of fiber; and

wherein a space between said ears is added to said media.

36. A computer program product according to claim 35, wherein said differential equation in the space between said ears is a differential equation stating a relationship among temporal change of fugacity of said compound in the space between said ears, temporal change in volume of the solution containing said compound in the space between said ears, amount of attachment of said compound into the space portion between said ears by falling, amount of transference

of said compound between the space portion between said ears and another medium, and change in amount of degradation of said compound in the space portion between said ears.

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Respectfully Submitted

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